

Ice Free Switch® (DEG/PG)

MATERIAL SAFETY DATA SHEET

SECTION I -- IDENTIFICATION OF SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

TRADE NAME: ICE FREE SWITCH® (DEG/PG)
CHEMICAL NAME: DIETHYLENE & PROPYLENE GLYCOL BASED WINTER AGENT
CHEMICAL FAMILY: GLYCOLS
MOLECULAR WEIGHT: N/A
FORMULA: DEG AND PG SOLUTION WITH PROPRIETARY INGREDIENTS
CAS REGISTRY NO: PRODUCT A BLEND – NO NUMBER ASSIGNED

SECTION II -- COMPOSITION/INFORMATION ON INGREDIENTS

NAME	CAS REG. NO.	WT. %
DIETHYLENE GLYCOL	111-46-6	>20%
PROPRIETARY INGREDIENTS	TRADE SECRET	<40%

SECTION III -- HAZARDS IDENTIFICATION

DIETHYLENE GLYCOL TOXIC
PROPRIETARY INGREDIENTS NON-HAZARDOUS

SECTION IV -- FIRST AID MEASURES

EYES: Flush eyes with flowing water at least 15 minutes, get medical attention.
INHALATION: Move to fresh air if effects occur, and get medical attention.
SKIN: Flush with large amount of water or wash with soap and water.
Seek medical attention if irritation persists.
INGESTION: Induce vomiting if large amounts are ingested. Consult medical personnel.
(Never give fluids or induce vomiting if patient is unconscious or having convulsions.)
NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on the judgement of the physician in response to reactions of the patient. Repeated, excessive exposure may aggravate pre-existing liver and kidney disease.

SECTION V -- FIRE FIGHTING MEASURES

FLASH POINT (TEST METHOD): N/A
EXTINGUISHING MEDIUM: Water fog, dry foam, CO₂, dry chemical.
DO NOT use direct water stream.
SPECIAL FIREFIGHTING PROCEDURES: Avoid breathing vapors or fumes. Wear self contained breathing apparatus and turn out gear.
UNUSUAL FIRE AND EXPLOSION HAZARDS: None

SECTION VI -- ACCIDENTAL RELEASE MEASURES

SPILL AND LEAK PROCEDURES:
Dike and control spill. Transfer liquid to containers for recovery or disposal.
Keep spills out of municipal sewers and open bodies of water.

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SECTION VII -- HANDLING AND STORAGE

STORAGE: Keep in a cool, dry, ventilated storage area and in closed containers.

HANDLING: Practice reasonable caution to avoid skin and eye contact. Avoid breathing vapors from hot material. Trace quantities of ethylene oxide (EO) may be present in this product. While the trace quantities could accumulate in headspace areas of storage transport vessels, they are not expected to create a condition which will result in EO concentrations greater than 0.5ppm (8 hour TWA) in the breathing zone of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0ppm (8 hour TWA) for EO. (Code of Federal Regulations Part 1910.1047 of Title 29.)

SECTION VIII -- EXPOSURE CONTROL/PERSONAL PROTECTION

RESPIRATORY PROTECTION: None required when handling under normal handling conditions. In confined space or when exposure levels are exceeded then a NIOSH approved half face respirator with an organic vapor cartridge and particulate filter (NIOSH type P95 or R95 filter) may be worn for up to ten times the exposure limit. A full face respirator with an organic vapor cartridge and particulate filter (NIOSH P100 or R100 filter) may be worn up to 50 times the exposure limit. WARNING: Air purifying respirators do not protect workers in oxygen-deficient atmospheres.

VENTILATION: Good general ventilation should be sufficient. Local exhaust ventilation may be necessary for some operations.

EYE PROTECTION: Chemical splash goggles recommended.

PROTECTIVE CLOTHING: Impervious gloves recommended (latex, vinyl, neoprene).

EXPOSURE GUIDELINES: AIHA Workplace Environmental Exposure Level (WEEL): TWA = 10 mg/M³

SECTION IX -- PHYSICAL AND CHEMICAL PROPERTIES

BOILING/MELTING POINT @ 760 mm Hg: 473°F (245°C)

POUR POINT: -25°F (-31°C)

VAPOR PRESSURE mm Hg @ 20°C: <0.01

SPECIFIC GRAVITY OR BULK DENSITY: 1.17

SOLUBILITY IN WATER: Complete

APPEARANCE: clear to green liquid

ODOR: Slight odor

pH: 7

SECTION X -- STABILITY AND REACTIVITY

STABILITY: Stable

MATERIALS TO AVOID: Oxidizing materials

HAZARDOUS DECOMPOSITION PRODUCTS: Burning produces normal products of combustion; carbon dioxide, carbon monoxide, water.

HAZARDOUS POLYMERIZATION: Does not occur

CONDITIONS TO AVOID: Heat, sparks, open flame.

CORROSIVE TO METAL: No

OXIDIZER: No

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SECTION XI -- TOXICOLOGICAL INFORMATION

HMIS

Health: 1 Reactivity: 0
Flammability: 1 Special: -

NFPA

Health: I Reactivity: 0
Flammability: 1 Special: -

WARNING STATEMENT

DANGER:

**HARMFUL OR FATAL IF SWALLOWED, CONTAINS
DIETHYLENE GLYCOL.
MAY CAUSE KIDNEY AND NERVOUS SYSTEM DAMAGE.
MAY CAUSE EYE IRRITATION.**

TOXICOLOGICAL DATA:

Oral LD50 (rat) 20,760 mg/kg
Primary skin irritant (rabbit); skin absorption LD50 13,300 mg/kg
Primary eye irritant, practically non-irritating

EFFECTS OF OVEREXPOSURE:

ACUTE:

EYES:

Essentially non-irritating to the eyes.

SKIN:

Prolonged or repeated exposure is not likely to cause irritation.

INHALATION:

At room temperature, exposures are likely due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

INGESTION:

Single dose oral toxicity is moderate. The oral LD50 for rats is 20,760 mg/kg. Oral toxicity is expected to be moderate in humans even though tests with animals show a lower degree of toxicity. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of larger amounts may cause injury, even death.

SKIN ABSORPTION:

The LD50 for skin absorption in rabbits is 13,300 mg/kg. A single prolonged exposure is not likely to result in the material being absorbed through the skin in harmful amounts. Repeated skin exposures may result in absorption of harmful amounts.

CHRONIC:

SYSTEMIC & OTHER EFFECTS:

Repeated ingestion may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects, nausea and/or vomiting, anesthetic or narcotic effects. Reports of kidney failure and death in burn patients suggest that diethylene glycol may have been a factor. The use of topical applications containing diethylene glycol may not be appropriate in severely burned patients or individuals with impaired renal function. Observations in animals include formation of bladder stones after repeated oral doses. Based on data from long term animal studies diethylene glycol is not believed to pose carcinogenic risk to man. Birth defects are unlikely from exposure to diethylene glycol. Exposures having no effect on the mother should have no effect on the fetus. Diethylene glycol has not interfered with reproduction in animal studies. Results of in vitro (test tube) mutagenicity tests have been negative.

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SECTION XII -- ECOLOGICAL INFORMATION

AQUATIC TOXICITY RATING: LC50 (96 hour) greater than 1000ppm.
Considered relatively harmless.

SECTION XIII -- DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of solids and the contaminated diking material according to local, state and federal regulations.

CONTAINER DISPOSAL: Do not re-use containers.
Do not weld on metal containers.

SECTION XIV -- TRANSPORTATION INFORMATION

D.O.T. PROPER SHIPPING NAME (49CFR172.101): None

HAZARDOUS SUBSTANCE (40CFR116): N/A

REPORTABLE QUANTITY (RQ): N/A

D.O.T. HAZARD CLASSIFICATION (49CFR172.101): Non-regulated

D.O.T. LABELS REQUIRED: (49CFR172.101): None

D.O.T. PLACARDS REQUIRED: None

POISON CONSTITUENT (49CFR173.343): N/A

BILL OF LADING DESCRIPTION: Anti-sticking Agent, proprietary
(diethylene and propylene glycol based)

FREIGHT CLASS NUMBER: 50

SECTION XV-- REGULATORY INFORMATION

ICE FREE SWITCH[®] (DEG/PG) is not a restricted article according to the Department of Transportation.

EPA SARA TITLE III hazard class: None

OSHA HCS hazard class: Irritant (29CFR1910.1200)

TSCA (Toxic Substance Control Act): All components of this product are on the TSCA inventory or are exempt from TSCA Inventory requirements.

EPA SARA TITLE III Section 313 (40CFR372)
Toxic Chemicals present in quantities greater than the "de minimus" level are: None

CERCLA Section 102(a) Hazardous Substance: None

RCHA Hazardous Substance: None

WHMIS Classification: D2, Chronic Toxicity Hazard

SECTION XVI -- OTHER INFORMATION

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown below. However, no warranty, express or implied, is given. Regulator requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial and local laws.

ABBREVIATIONS AND SYMBOLS:

N.D. - Not Determined

N.A. - Not Applicable

N.T. - Not Tested

< - LESS THAN

> - MORE THAN